

THE

May, 1959

CHEMIST

VOLUME XXXVI



NUMBER 5



—C & EN

Dr. Lloyd A. Hall (center), receives Honorary AIC Membership from AIC president, Dr. Emil Ott (right). The Hon. Richard J. Daley, Mayor of Chicago, is at left.

(See page 155)

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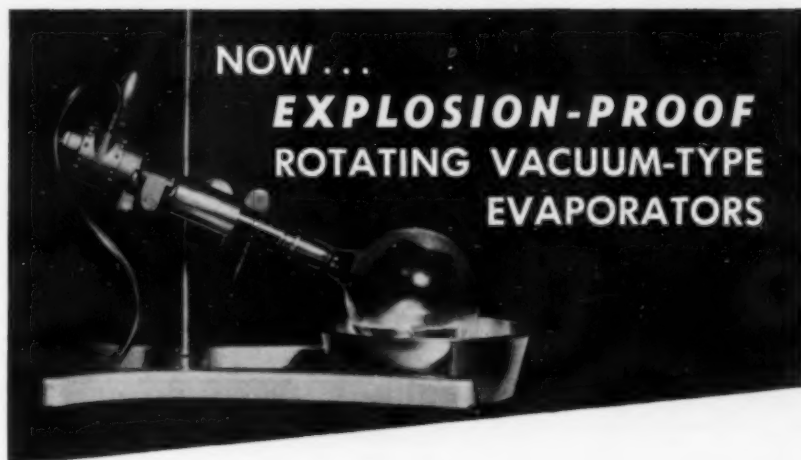


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May, 1959

Number 5

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Deadlines for THE CHEMIST: For the June issue the deadline is May 15.

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TO COME IN JUNE

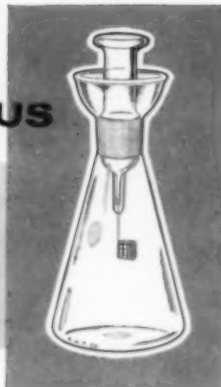
The June issue of *THE CHEMIST* is always a special issue devoted to the proceedings of the Annual Meeting. Therefore, we will include as many of the fine papers to be presented at our 36th Annual Meeting as are available. (For program of this meeting, see April *CHEMIST*.) Actions taken at the Annual Business meeting, the results of the election for new officers, and other announcements, will be included.

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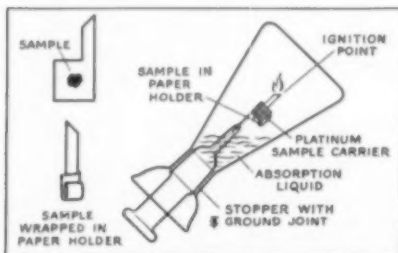
In use, the sample is wrapped and folded

in the paper holder. Sample is then placed in the platinum carrier and the flask is charged with a small amount of absorbing liquid as required for the specific reaction and with free-flowing oxygen. The paper tail is then ignited; the stopper with sample is seated in the flask and flask then inverted at an angle. The catalytic combustion proceeds at high temperatures and the combustion products are absorbed in the liquid. Titrations can then be made directly in the flask.

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See Wolfgang Schöniger, *Mikrochimica Acta*, 1955, Heft 1, pp. 123-129, and *ibid.*, 1956, Heft 1-6, pp. 869-876.



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EDITORIAL

These Objectives Distinguish the AIC

THE AMERICAN INSTITUTE OF CHEMISTS is distinguished from other organizations in that it is concerned solely with the chemist and chemical engineer as professional persons, not with science itself. The AIC sets high standards for the chemical professions; provides a Code of Ethics; leads the way to professional advancement. It also cooperates with other societies toward greater public recognition of the importance of chemists and chemical engineers.

Here are the AIC Objectives as set forth in our Charter and in our Constitution:

- (1) To provide and enforce a code of conduct which merits public esteem and justifies confidence in the integrity of the Chemist and Chemical Engineer;
- (2) To establish and maintain a standard of proficiency of such excellence as to insure competent and efficient service.
- (3) To secure an adequate basic training for these professions and admit to fellowship in the Institute only

those of proved education, experience, competency and character;

- (4) To enhance the prestige and distinction of the professions and to extend their influence and usefulness;
- (5) To establish and maintain a register of its membership in which there shall be a complete record of the training, experience and fitness for service of each individual member;
- (6) To improve the economic status of the professions by cooperating with employers and the public to secure a satisfactory appreciation and evaluation of the services of the Chemist and Chemical Engineer;
- (7) To provide means for appropriate recognition of distinguished service to the professions;
- (8) To cooperate with all the agencies serving chemistry to make the professions of chemist and chemical engineer powerful factors in the advancement of intellectual and material progress in the United States of America;
- (9) To lend support to the work of the chemical societies in the education of the public to a better appreciation of the contribution of the Chemist and Chemical Engineer to world progress;
- (10) To render such other services to the professions as developments shall warrant and THE AMERICAN INSTITUTE OF CHEMISTS shall approve.

The Value of Technicians

The greater use of engineering technicians to increase the effectiveness of engineers is a practice by which everyone wins. Economic considerations and a tight supply of professional engineers both dictate the maximum use of technicians in all areas in which they can perform ef-

fectively and competently. Even more important, the successful use of engineering technicians is real progress in the area of human relations. It represents another step forward toward optimum utilization of our collective abilities.

—Randall Meyer

(Speaking at the 38th Annual Meeting of the AIChE)

Special AIC Announcements

Credit Where Credit Is Due

Those who do the most work usually get the least credit, and this rule holds true—especially when we think of two hard-working members of our 1959 Annual Meeting Committee, who were left off the Program Committee (see page 116, April *CHEMIST*): Dr. Max Bender of American Cyanamid Company, Bound Brook, N. J., and Dr. Murray Berdick of Evans Research & Development Corporation, New York, N. Y. To them we are all indebted for their fine work in arranging our splendid program for the 36th Annual Meeting being held in Atlantic City, N. J., May 6-8.

The Code of Ethics for Framing

In response to a number of inquiries, the AIC Code of Ethics will shortly be available in a form suitable for framing. It is being printed on a good grade of heavy white paper, measuring 11 x 14 inches, illuminated with the AIC emblem in green. We plan to have copies available for inspection at the Annual AIC Business meeting, May 7, 1959, at the Traymore Hotel, Atlantic City, N. J.

AIC members may obtain a copy of this Code of Ethics for Framing by sending \$1.00 and requesting it from the Secretary, The American Institute of Chemists, Inc., 60 E. 42nd St., New York 17, N. Y.

Washington Chapter Honor Award

The Washington Chapter announces that Thomas R. Henry, science writer for the *Washington Star* and a large syndicated group of newspapers, will receive the Chapter's Honor Award at a dinner to be held at the Army-Navy Club, Washington, D. C., May 27. He is cited for his service to science as a professional writer and author.

Delaware Chapter Program

The new Delaware Chapter has set up an ambitious "Program of Objectives." (See page 179.) Other Chapters may wish to adopt parts of this program, to cooperate with them, or to supply information to the Delaware Chapter on subjects of experience. The Chapter secretary is Dr. Stephen D. Bruck, 1222 Prospect Drive, Kynlyn Apartments, Wilmington 3, Delaware.

New Secretary For Alabama Chapter

The Alabama Chapter has elected William D. Guthrie, F.A.I.C., 915 Speake Road, N.W., Huntsville, Alabama, as secretary of the Chapter to replace Charles L. Smith, resigned.

New Chapter Petitions

Petitions for two new AIC Chapters, one in Florida and the other in upper New York State, have been received for presentation at our 36th Annual Meeting.

Catalyst for Better Living

Dr. Lloyd A. Hall, Hon. AIC

*Technical Director, The Griffith Laboratories, Inc., 1415 W. 37th St.,
Chicago 9, Illinois*

(Condensation of an address by the author when he received Honorary AIC Membership at a meeting sponsored by the Chicago AIC Chapter, January 14, 1959, in Chicago, Ill.)

A STATEMENT from an address by the late Charles E. Kettering has great significance for all of us:

With willing hands and open minds, the future will be greater than the most enthusiastic story you can write. You will always underrate it. We are looking backwards so much that we back into the future, and that's why we get into so much trouble. What I should like for us to do is to back into the past and look forward and learn whenever we can, because all the rest of our lives are going to be spent in the future and we should be interested in that and not where we came from.

Let us "back into the past, and look into the future" to see the effect chemistry has had on our lives and to visualize what it will have on our future. "Catalyst for Better Living" refers especially to better living from progress in chemistry.

A catalyst is "a substance that influences the rate of a chemical reaction but remains apparently chemically unchanged throughout the reaction." The process of changing the velocity of a chemical reaction by the presence of a catalyst is known as catalysis. If two catalysts which influence the same reaction are added to the reaction mixture, the net effect

differs from that produced when either component is used by itself in the mixture. For example, the observed rate may be greater than that calculated by adding the rates obtained individually from the two constituents.

In our everyday life, we are all catalysts, in one way or the other, for good or bad, for progress and improvement, or for retrogression and decay. Our reactions on other people are, in a sense, as chemical catalysts. They are essentially good reactions, else there would be no development and progress in industry and society for better living.

Chemicals and their reaction products are vital to the basic needs of the average person today. Through fertilizers, soil conditioners, insecticides and pesticides, chemicals have made possible better food at less cost. Chemical research has advanced food preservation, packaging, and transportation. Medicinal chemicals have helped Americans live longer and healthier lives. Chemical treatment of natural fibers and the introduction of man-made fibers have made Americans the best dressed people in the world. Chemicals have made possible better housing by boosting the output

of the forests, preserving lumber, improving paints, and developing new building materials, such as glass brick, artificial tile, composition roofing, plastic plumbing, translucent roofs, insulation and corrosion-proof materials.

Chemicals are needed in automotive fuels and lubricants, safety glass, rubber, upholstery, plastics, lacquers, and finishes. Railroads require chemicals for cross-tie preservatives, fire retardants, in piling and posts, in refrigerated cars, and in Diesel fuels. In communications, chemicals are essential to equipment from telephone systems to radar units. In manufacturing, chemicals are necessary for every product. The list is endless.

According to the Department of Defense, not one single modern weapons system would function without the products of the chemical industry. The importance of chemicals to national security was vividly demonstrated in World War II, when in two years, the billion dollar synthetic rubber industry was created from scratch. Chemists contributed much of the talent which built and operated wartime atom plants.

One of the important reasons for the dynamic growth of the chemical industry is that manufacturers have shifted their activities closer to the ultimate consumer. While chemical plants once produced just basic chemicals, they have gradually upgraded into products which go directly to the

consumer. One industry executive commented: "Instead of a company making plain old mundane sulfuric acid, chlorine, caustic soda, or nitric acid, consumers now identify firms with household wares like Nylon, Saran, Cellophane, Silicone, Ac'cent, Pliofilm and Prestone . . ." As a result, the industry has found itself diversified into many faraway fields. The chemical makers have moved into atomic energy, petroleum and metals. In some cases, they have penetrated a field, then stayed around to revolutionize it, as in textiles, where synthetic fibers now account for almost 10% of all fibers used.

"Basic, Ubiquitous and Dynamic"

A top executive of a new chemical company describes the industry in three words: "Basic, Ubiquitous and Dynamic." It is basic because it supplies products to every industry. It is ubiquitous because at some stage of production, chemistry is used in the manufacture of almost every product. It is dynamic because it is constantly generating new products and new industries.

Another reason for the industry's fast growth is the myriad new products issuing from its laboratories. About half of all chemical sales come from products which have been placed on the market within the last 25 years. Some of these are the foundation of new industries, as plastics, synthetic rubber, and petrochemicals.

Yet the industry has not neglected basic items—it has come up with better processes which have lowered costs and kept the older chemicals competitive.

As civilization progresses, it runs out of certain materials. It is the chemist who takes worthless raw materials and transforms them into something useful. Often chemists come up with products better than those they replace. The outstanding achievements of chemists have made management acutely aware of their importance. No longer waiting for materials to be depleted, they aggressively strive to convert raw materials into more valuable compositions. This may be a material which the economy needs; it may be an improvement, or it may be a product which it is hoped will find a profitable market.

During 1958, the industry spent almost a billion dollars for research. More is budgeted for 1959. Current research expenditures run about 3% of sales, compared with 1% for industry in general, though some major chemical manufacturers spend as much as 4 to 5% of total sales. Research is costly.

Progress Since 1922

It is interesting to compare 35 years of progress and the major achievements of special interest which have occurred in the food, drug and chemical industry. In 1922 there were only four known vitamins, A, B, C, and D. The chemical identity of not a

single one had been established. In 1957, the recognized vitamins (exclusive of natural and synthetic variance) were 16, all known chemical constituents. Over \$100 million worth of synthetic vitamins are produced annually in the U. S.

In 1922, rickets, scurvy and pellagra were prevalent throughout the U. S. The conclusion had just been established that these were nutritional deficiency diseases, although the antipellagric factor was not identified as nicotinic acid until 15 years later.

In 1957, due to the increased consumption of milk, plain and vitamin D fortified, citrus juices, enriched bread and cereals, and vitamin preparations as dietary supplements, nutritional deficiencies were relatively rare.

In 1922, Insulin was first produced, but there were no gonadotropics, no adrenocortico drugs, no sulfa drugs, no antibiotics, no antihistamines, few barbiturates, and no tranquilizers. Today these and many other new drugs have been accepted, so that 90% of the drugs sold are those that were not available a quarter of a century ago.

In 1922, the principal agricultural insecticides were lime-sulfur, arsenic and copper compounds, nicotine, pyrethrum, rotenone and a few synthetic compounds. As late as 1939 the sales volume of these products was only \$40 million. In 1957, a synthetic organic pesticide industry had sprung

up, in which the number of new insecticides, pesticides, and growth regulators reached into the hundreds, with annual sales of \$300 million.

The development of detergents—the surface active or wetting agents—has revolutionized the laundering and sanitation fields and introduced a strong competitor of soap.

The food industry has grown tremendously. Convenient, ready-prepared foods in large quantity eliminate unwanted chores in the kitchen, and make everyone who can read a good cook. Frozen foods and canned foods, though a part of the food industry, have become large industries of their own. Instant coffee and tea are accepted products.

The meat packing industry today is far superior to that of 35 years ago. Every aspect in the production of cured meats, ham, bacon, corned beef and sausage, has been vastly improved. Fats, like lard and other edible fats and oils, are now processed to prevent them from developing rancid tastes and odors. Meats and other foods are packaged in sanitary containers or wrapped in special films to prevent contamination by storage or handling. Preservation of foods has been developed almost to perfection. However, research and development continues to search for further improvement. Foods today are safer, better, and in more variety than ever before. Despite "crackpot" articles appearing occasionally in the press

concerning poisonings from foods, this is seldom true. Not only has the food manufacturer improved his processing but research and quality control has become standard practice. The U. S. Department of Agriculture exercises strict control on every type of food product. Manufacturers are under the constant surveillance of their own scientists and Government inspection; and compliance with the U. S. Food and Drug Laws can be enforced by the courts.

The food scientists and medical scientists have given us longer life expectancy. Thirty-five years ago, life expectancy was 44 years, according to insurance actuaries. It is now 68 years and being rapidly extended to an older age by science and education. The National Association of Insurance Commissioners praised the great advances in medical science and food production since 1941, and on Dec. 18, 1958, approved a new mortality table, the first such change in 17 years. In 1941, a child at birth had a life expectancy of 62 years; in 1958, the average expectancy was 68 years.

Science in the Future

This, of necessity, is only a brief picture of what science as a catalyst has done in our lifetime. Let us take a short look at what it can do for us in the future.

We are to see continued developments in the food industry with the advance of food technology. This industry is also concerned with needs,

CATALYST FOR BETTER LIVING

especially with respect to the benefits of adequate protein foods and the decrease of certain fats, for lengthening our life span. Food scientists are working closely with medical scientists to make significant contributions to geriatrics.

What would have happened on December 7, 1941, at Pearl Harbor had we anticipated the danger of attack and had been able to shroud the Island of Oahu, Hawaii, with a voluminous fog that carried miles out into the Pacific? Probably the planes attacking us would have turned back and perhaps we would have been kept out of the war through subsequent diplomatic negotiations. Weather can often play a crucial role in changing history. Today, scientists are doing a great deal of research on weather. Their understanding of meteorological conditions is the key to attempts to control the elements. Already man-made rains and storms have been produced, and it is certain that scientists will gain some form of control over the elements within the next 20 years. Weather control, or modification in the form of increased or decreased precipitation, the prevention of hail and lightning, is now thought probable, within 10 to 15 years, by a group of U. S. weather scientists. This indicates that we may be able to control climate within 50 years.

The future in medical science is the subject of some astounding predictions. Foremost, are ways of length-

ening the life span of healthy humans by slowing the rate at which their arteries harden with age and by controlling the tendency of blood pressure to increase with the years. Scientists already have a working understanding of these normal processes, which when they go too far, are the prime causes of heart attacks and strokes. In 1958, scientists advanced beyond cholesterol, that substance which the blood deposits in the linings of arteries. There are a number of fatty substances involved, related chemically yet different. Body chemistry strikes a balance among them, and the nature of this balance determines the amounts of cholesterol available for disposal. The problems seem to be to identify these balances more precisely and to devise chemical compounds which will change them favorably for any person despite his heredity traits, and even despite his diet.

The past year brought reports of studies into the reasons for common forms of excessive blood pressure. It was demonstrated that the linings of blood vessels secrete a chemical which neutralizes a hormone released into the blood by the adrenal glands. The hormone constricts blood vessels. The neutralizing chemical prevents the vessels from being constricted too much and for too long. What remains to be done is to identify this chemical neutralizer, said to be definitely an enzyme; in other words, a catalyst.

In the medical field, scientists continually war against cancer. Cancer is a riddle that makes all other riddles seem simple. The concept that the solution is to be sought only in the cancerous cell has been strikingly refuted in recent years. It is increasingly apparent that insight into the cancer problem may be gained from knowledge of the growth processes in the normal cell and from an analysis of those factors that enhance or inhibit normal growth.

In the amazing future, we can see a continued development and diversification of the giant plastic industry, which is less than 25 years old; new products from petrochemicals; chemicals from the sea, and many other useful developments for better living as a result of scientific research.

The Need to Explore Human Minds

We hear much about "the conquest of outer space." I am not excited by this, though the information obtained is valuable. I think it takes our minds off the conquest of those of us who live in the world. We require more experimentation and exploration in relations between people. It is much more essential to learn what our fellow men are thinking, feeling, and desiring during their term on earth. If there are funds to be spent, let them be utilized for improving our lives in every area for a while longer. Space research is another part of the dizzy pace in science that exists today.

Few men in the 20th century can keep up with it. As satellites roar into the sky and "wonder drugs" come out of the laboratories, some fearful and bewildering new dimensions are added to this world we think we know so well. But it reflects our unusually rapid progress and our universal desire for better things.

J. Robert Oppenheimer once confessed, "Our understanding of this world is just fragmentary. We have just a corner of a huge bolt of cloth that will unroll and unroll."

Until recently, scientists had little concern about public relations. They have been reluctant to take the time to tell the public what they are, what they think and what they do. Certainly, scientists are not different from other people, but they do not succeed too well in putting it over that they are generating better living for all humanity. Even so, they are following present day trends and doing a better job of personal advertising. While scientists have many outstanding scientific societies and institutes, where they discuss freely their problems among themselves, they are now just arriving at the point where they want themselves and the work they do to be understood by the public at large. They want professional status and public acceptance not only as scientists but as active citizens as well.

This is a "bird's-eye view" of some things chemists and scientists are doing to make this a better world. They

CATALYST FOR BETTER LIVING

are proud of their accomplishments. As "catalysts for better living," they dedicate their talents, of whatever kind, to continued world progress and the peaceful understanding of men.

A poem by William Cox Bennett seems appropriate here:

Man of the Future, what shall be
The life of Earth that you shall see?

What strange new facts the years
will show?

What wonders rare your eyes shall
know?

To what new realms of marvel, say,
Will conquering science war its way?

Lloyd A. Hall — The Citizen

The Hon. Richard J. Daley

Mayor, Chicago, Illinois

(Presented when Dr. Lloyd A. Hall received Honorary AIC Membership at a meeting of the Chicago AIC Chapter, January 14, 1959, Chicago, Ill.)

MANKIND today faces a future bright with scientific hope. In the press, on television, in our daily lives, we are constantly reminded of the wonderful world of science.

We are told what science has done to make our lives healthier and happier. We are told what science has done to combat disease and to enrich our days. But often, when we think of the new vaccines and the new vanguards, we forget the human story of the men who have labored on behalf of humanity.

Lloyd A. Hall is a man we cannot forget. The truth of the matter is he will not let us forget him. His accomplishments are everywhere around us. In the field of food chemistry, both for industry in peace and for the nation in war, his accomplishments are too long to cite. . . .

He is one of the most outstanding leaders in our community. He has

worked in our settlement houses and in our youth organizations. He has served as a director of the Wabash Avenue and the Washington Park YMCA's. He was one of the outstanding directors of our McKinley Community House, of Hull House, and the Kenwood-Ellis House.

He has devoted much time and energy to the improvement of our neighborhoods, as well as to the lives of the people who live in them.

As a member of the guiding councils of the NAACP and the Chicago Urban League, he has done much to promote public harmony. In 1957 he received the highest award of the Chicago Conference on Brotherhood.

It can be truly said that Dr. Lloyd Hall by his tireless efforts has proven himself to be not only an outstanding scientist but an outstanding Chicagoan.

In a time when it is said that peo-

ple who live in great cities hardly ever know their neighbors, he has shown that he has both known his neighbor and served his neighbor well.

As Mayor, on behalf of the people of Chicago, we thank Dr. Hall for

the fine example he has set. It has inspired others to follow, and with such examples of good citizenship and of being a good neighbor, Chicago can continue being a better place in which to live and work, for all of us.

Lloyd A. Hall — The Chemist

F. Willard Griffith

Executive Vice President, The Griffith Laboratories, Inc., 1415 W. 37th St., Chicago 9, Illinois

(Presented when Dr. Hall received Honorary AIC Membership at a meeting of the Chicago AIC Chapter, January 14, 1959, in Chicago, Ill.)

The Family History

DR. Lloyd A. Hall's paternal grandfather was Abram T. Hall (a free negro), born Jan. 17, 1822 at Mifflintown, Pa. He came to Chicago in 1837 and was one of the founders of Quinn Chapel A.M.E. Church, and its first pastor, in 1844. This is the first and oldest colored church in Chicago. His paternal grandmother, also a free negro, was born in Kentucky. Dr. Hall's maternal grandfather, named French, was a native of Indiana, and his maternal grandmother was born in Tuscumbia, Alabama, and came to Mendota, Illinois, in 1863 via the "Underground Railway," when she was 16. Lloyd's father was born in Chicago in 1855; his mother at Mendota, Illinois, in 1868. Both were high school graduates, an unusual accomplishment in those days. Lloyd himself was born in Elgin, Illinois, in 1894. These details show that signs of leadership in

the Hall family were a matter of record back in the early days of his paternal grandfather. It is said that after Lloyd had spent his first few days in school, he was asked how he liked it. He replied, "I don't like it. It's a waste of time. I can't read and can't write, and they won't let me talk."

Educational Background

Lloyd graduated from East High School, Aurora, in 1912. In high school, he was interested in chemistry and other sciences, and in debating as well. He represented the school in several Declamation Contests and for two years was a member of the Debating team. He was active in athletics and won his high school letters in track and football. His parents had hoped he could eventually study medicine and his courses were laid out to emphasize the sciences. In his junior year, his science teacher made him

his assistant in teaching elementary chemistry, and occasionally he was asked to and took charge of the class.

As an honor student in high school, Lloyd was given a scholarship to Northwestern University and he matriculated in the Liberal Arts college in 1912. He discovered there was more chemistry taught in the Pharmacy School, however, and so made the transfer. As a graduate in pharmacy, he received the Ph.G. and Ph.C. degrees. It was at Northwestern, in the School of Pharmacy, that Lloyd and my brother, Carroll L. Griffith, became acquainted. At alphabetically assigned seats and laboratory facilities, they worked side by side. This coincidence was to materially affect Lloyd's later life.

Lloyd returned to Northwestern and did sufficient work in Liberal Arts' subjects to obtain the bachelor's degree. At the University of Chicago he took graduate courses in biological chemistry, advanced organic chemistry, and calculus, and he enjoyed the course in advanced physics, given by the Nobel Prize Winner, Dr. Arthur Compton. Much of Lloyd's work here was done in Evening School.

Scientific Career

Lloyd then took a position as assistant chemist with Central Chemical Co., manufacturers of hydrogen peroxide and a by-product, barium sulphate. His next move was to Columbus Laboratories as assistant chemist. While there, he took a city Civil

Service examination, was rated third, and consequently was immediately employed by the Chicago Department of Health Laboratories. After a year here, he took another examination to qualify for senior chemist. First on this list, he got the appointment in 1917.

World War I was impending and Lloyd now received an appointment to the U. S. Ordnance Department Training School for Powder and Explosives at the Du Pont plant, Carney's Point, N. J. After three months, he was made assistant chief inspector of powder and explosives and sent to Barksdale, Wis., then the largest TNT plant in the U. S. After seven months, he was made chief inspector and assigned to an explosives plant in Fayville, Ill. The Army then needed more centralized control in munitions manufacture. Lloyd became one of the organizers of the U. S. Ordnance Department Supervisory and Control Laboratory, Philadelphia. This laboratory was managed by Dr. George P. Frankfurter, on leave from the University of Minnesota where he was dean of the School of Chemistry, and Dr. Moses Gomberg, on leave from the University of Michigan where he was professor of organic chemistry. Lloyd's work with these two scientists could be called a refresher course in organic chemistry.

Chance often moves in to affect our lives. In Lloyd's case, as he was returning to Chicago in April, 1919,

by train, he met T. Henry Foster, president of John Morrell and Company, Iowa meat packers. Lloyd was asked to set up a control laboratory in Morrell's plant. While working here, Lloyd met and married Myrrene, who had just graduated from Western State Teachers' College at Macomb, Ill.

When Lloyd returned to Chicago, two years later, he had three chemists and two technicians under his direction at Morrell's. He then established his own business, Chemical Products Corporation, and was its president for about three years. Business was good but lacking finances to facilitate growth, he closed the business in 1925 to become a chemical consultant.

The consulting business concentrated in the food field, with the assistance of his wife and one technician. Carroll Griffith was then finding it not possible to do all the laboratory work, in addition to financial management, for the growing Griffith Laboratories. He made an arrangement with Lloyd, at first on a consulting basis, and then as the Griffith Laboratories became greater and greater, as a full time employee in 1929.

In the past thirty years, Lloyd has made many contributions to the scientific knowledge of the food industries. He is credited as inventor or co-inventor of over 100 patents issued in the U. S. and abroad. His interest in the betterment of others has been shown by his lectures on many occa-

sions at universities and scientific meetings. He has been awarded two Honorary D.Sc. degrees; one from Virginia State College in 1944, the other from Tuskegee Institute in 1947.

At Griffith Laboratories, Dr. Hall occupies the position of technical director, a post which he has filled admirably for many years. In addition to technical ability, he has always had a kindly sense of humor. Once he called his secretary in and complimented her on her appearance, beauty, charm, and deportment. Naturally, the young lady was thrilled. He then said to her, "Please enjoy these compliments to the fullest, because I would now like to move on and discuss spelling, punctuation and dictation."

We who have known Dr. Hall through these many years have enjoyed working with him. We are especially happy that he has received so many honors from industry and science.

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Presentation of Honorary Membership

HONORARY AIC Membership was presented to Dr. Lloyd A. Hall, technical director of The Griffith Laboratories, Chicago, Ill., at a dinner meeting sponsored by the Chicago AIC Chapter, January 14, 1959, at The Furniture Club of America, Chicago, preceded by a reception through the courtesy of The Griffith Laboratories.

Albert S. Henick, of the Quartermaster Food and Container Institute, Chicago, and chairman of the Chapter, presided. The Honorable Richard J. Daley, mayor of Chicago, spoke on "Lloyd A. Hall—the Citizen." F. Willard Griffith, executive vice president, The Griffith Laboratories,

spoke on "Lloyd A. Hall—Chemist."

Dr. Emil Ott, AIC president, presented the certificate of honorary membership to Dr. Hall, who responded with an address on "Catalyst for Better Living." (For these papers, see preceding pages.)

The citation on the certificate of Honorary Membership reads:

To Dr. Lloyd A. Hall

for noteworthy leadership in food and industrial biological chemistry, his help and encouragement of young chemists, and his enthusiastic and unflagging crusade in behalf of higher professional standards and public recognition of the professional chemists.

Communication—A Subject For Education

A recent survey by Case Institute of Technology, Cleveland 6, Ohio, indicates that a chemist in industry spends an average of 16.5 hours per week in scientific communication; 15.9 hours per week in other scientific activity; 6.7 hours per week in business communications; and 51.1 hours in personal and social activity. Thus he spends 23.2 hours per week purely in communication as opposed to 15.9 hours per week in actual scientific work in the laboratory.

The question raised by Case experts was that if chemists are typical

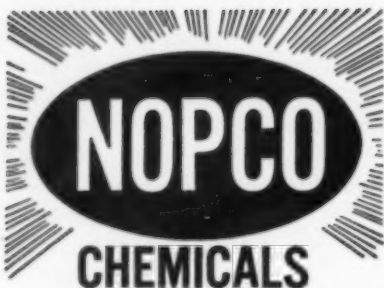
of scientists as a group, it is obvious that a scientist spends more time in communication than in any other professional activity. Yet the education of scientists, pure or applied, seldom involves any systematic effort to equip them for scientific communication.

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About AIC Members

Dr. C. Harold Fisher, F.A.I.C., director, Southern Utilization Research and Development Division, U. S. Department of Agriculture, New Orleans, La., will receive the Herty Medal of the Georgia Section of the American Chemical Society, on May 2, at the Georgia State College for Women, Milledgeville, Ga.

Prof. W. G. Whitman, Hon. AIC, head, Department of Chemical Engineering at Massachusetts Institute of Technology, announces that twenty students are assigned, for the spring semester, to projects at the New Jersey plants of Esso Standard Oil Co. and American Cyanamid Co., **Dr. A. Garrett Hill, F.A.I.C.**, manager of the Cyanamid Bound Brook plant, said that this cooperative program "may be compared to the hospital internship of a young physician."

Dr. Glenn T. Seaborg, Hon. AIC, Nobel laureate, member of the board of directors of Nuclear Science & Engineering Corporation, Pittsburgh, and professor at the University of California, has been appointed by President Eisenhower to the President's Science Advisory Committee.

Dr. Harry G. Lindwall, F.A.I.C., has resigned as professor of chemistry at New York University to become research associate at the Olin Mathieson Chemical Corporation in New Haven, Conn.

(And See Page 180)

Achieving Success on the Job — Exploiting Our Abilities

Marlin G. Geiger

Executive Vice President, W. R. Grace & Co., 3 Hanover Sq.,
New York 4, N. Y.

(Presented at a recent meeting of the New York AIC Chapter in New York, N. Y.)

JUST what do we mean when we say success? Is success security, adequate pay, a warm home, a happy family, and satisfaction that when retirement age arrives the mortgage will be paid, and instead of going to the county poor farm, we'll be able to do what we want without too many financial worries? Or is success the ability to translate a touch of inventive genius into a new product that pays off handsomely in international glory and financial rewards? Or is success the ability to do something yourself in your job that allows you to achieve a feeling of personal satisfaction that money cannot buy?

Perhaps these are all gradients of success. The top clerk in a law firm may feel that he has attained all of the goals to which he has aspired. The college graduate on graduation day may feel that somehow he got through and therefore he is a success. Perhaps his father standing in the wings watching him graduate will say to himself, "I am truly successful because I have been able to send my son through college and I'm still not broke."

There are many yardsticks to measure success, but success is not just setting up a goal and saying, "I won't

be successful until I have reached that goal." Because even after we have reached a goal, the truly successful person is never really satisfied to leave it there and cease further progress.

We have three primary sets of motives that impel us to move up the ladder of success. The desire for material things, like an expensive convertible, a mink coat, or a hi-fi set, may motivate us, as would a demanding wife who may yearn for gracious living in the country.

Next to such crass materialism is our personal ambition or desire for credit or acclaim for favorable recognition by our peers or by the public. Certainly Jonas Salk, Marie Curie, Enrico Fermi, and Glenn Seaborg, fit into this category of receiving public acclaim from their creative achievements.

Finally, we can also be motivated by the sheer enjoyment we achieve from our work. Thorsten Veblen, the sociologist, commented on this in writing about the play instinct at work, whereby pleasure is found in the activity of accomplishment rather than the material results that might ensue.¹

(1) *The Engineer in Society*. By John Mills, D. Van Nostrand Co., Inc., 1946.

Before we move into what can be done about achieving success, I would comment that it is much harder to fail completely than to achieve some measure of success. It depends on what our success drives actually are. Wallace Carothers, the brilliant chemist from Du Pont who invented nylon and opened the door to polymer chemistry, committed suicide because he became despondent over his lack of new concepts and additional ideas. Yet among the scientists and the public at large no one can question that his contribution ranks him in the order of one man in a million in this century.

Let us look at a case history of a young chemist, Bill Jones, who has his share of drives and ambitions, and how he was able to achieve success on the job. Bill Jones is a graduate chemist who has started on his new career as a chemist in the laboratory of a basic chemical manufacturing firm. Perhaps by looking at an early portion of his career we can see how he may achieve success by the decisions his job permits him to make.

Bill is one of six new chemists hired for the organic chemicals department of the Rugged Chemical Company of Upstate, New York. Rugged is a medium sized firm handling a business volume in the range of \$17 to \$20 million dollars a year. They employ 25 graduate chemists and have a supporting staff of 25 technicians, laboratory assistants, and office personnel

in their research and development department.

Bill was given an indoctrination program in which he was instructed in the fundamentals behind the products Rugged makes. He learned about the programs the company had under way from basic research to quality control. After three months he was given an assignment in the quality control laboratory where he made routine checks on samples of the company's products as they were produced during continuous operations.

In the months that followed in quality control, Bill began to wonder if the simple analytical instrumentation he was employing in his job was the end of the road for him. All he had to do was put a sample in a machine every hour; get a reading on a chart, make a calculation and record the answer. While some of the other men in the laboratory made the best of the assignment and got out their pocket novels to ease their frustrations while waiting for the next sample, Bill began to ponder the situation.

First of all he became curious as to the reasons for the method of quality control the company was using. He began learning about the facts behind the facts. There were fairly good reasons for most of the calculations he and the other men in quality control were making. When he did not understand the background on a particular test, he refused to take his

ACHIEVING SUCCESS

lack of comprehension for granted and he asked his supervisor about it. By taking more than a casual interest, he attracted attention to himself. He soon found that he was given some of the less routine assignments. As you can see, he was departing from an old army saying, "Don't volunteer for anything."

Second, he found that by following the technical literature concerning the test methods his department was using, that there were better and more accurate ways to make some determinations. Bill, without realizing it, was exhibiting leadership qualities in a gradual but progressive program of self-development.

The third step may even seem obvious but as this is allegorical it will help make my point. While Bill was conducting ordinary routine work that could have been discouraging and easily have the appearance of being up-a-blind-alley, he was making himself into an authority on the subject. He knew more about the instruments themselves and even how to repair them when the needle stuck or the graph paper failed to rotate. This was his world and his job came to life because he was going out of his way to gain greater enjoyment from what he was doing. What was "not his job" became the extra things he wanted to do. Look around your own office or laboratory and see the man who is an authority or a specialist in some phase of the work. I no longer

wonder how they got to be that way. I admire and respect their achievements.

Back at Rugged Chemical Co., in the months that followed, even if no one had noticed Bill, he was making progress. How many times have you heard the complaint, "Oh, why make an effort. This darn company wouldn't care if you worked 24 hours a day solid without even asking for overtime. I'm not going out of my way to lift a finger above and beyond my job." Bill had long since submerged any thoughts like these because he already was achieving success in self-satisfaction. He joined the Instrument Society and an analytical chemistry group and buried his nose in the proceedings of these groups. He received an opportunity to go to some of the meetings and circulate around a bit. Before long he was on a committee and he was getting a chance to learn and practice leadership in group activities, which is an important part of any development program, no matter to what line of work or branch of the department or company position one may aspire. He wrote and presented a paper on improved methods of analysis he had worked out in the laboratory.

You can see a pattern for progress in all of this. For what has taken place is a self-development program that almost anyone can follow. In this program a man can get a chance to evaluate himself and learn the

sweet smell of success by what he has done. Bill has changed himself from a routine analyst to a skilled professional. He has not had any breaks. But he knows that he wants to continue to climb the ladder of success. The decision he is faced with is whether he should try to progress in research, development or administration.

We could solve Bill's decision problem by saying he chose one path and lived happily ever after, and end our story there. But that would be oversimplification. The fact was that Bill was ready for the future because an assistant supervisor was needed and while he lacked seniority by several years, his qualifications stuck out all over. When one man complained that it wasn't fair because he had ten years of experience to Bill's three, the supervisor quipped, "No, you haven't had ten years of experience. You've had one year of experience ten times."

If Bill had not been promoted at all his aggressiveness and his interest in his work were still showing. From the pattern he established for himself, even if the company did not recognize him, he had at least three choices. He could stay where he was and be satisfied indefinitely. There is certainly nothing wrong with this. Eventually he is bound to move up as the company continues its growth curve or through normal personnel turnover. He could ask for a transfer to another Department as a means of

broadening his background. Many times there are positions available within a company if you know how to look for them.

Finally, after exhausting every avenue for advancement from within, a man may have to look on the outside. There is nothing wrong with changing jobs in order to make progress. In fact, after you feel you have stopped learning and the job is merely a treadmill to oblivion, your resignation will pave the way for the opportunity to become self-sufficient and attain a certain measure of confidence in yourself.

Enough has been said about wandering aimlessly from one job to another, but timing here is all important in order to keep the world from passing you by.

Our Bill Jones, without realizing it, was employing many of the qualifications leaders of industry take into account in measuring the traits of a successful executive.

Prof. Peter Drucker, eminent authority on business economics, has said, in his advice to college graduates on "How to Be an Employee,"² that the art of writing and self expression is the most important skill you can take to your job after you graduate. If you know how to communicate with your associates so that you can present your thoughts and ideas clearly, your chances of success are increased a thousand-fold. Direct-

(2) *How to Be an Employee*, *Fortune*, Vol. XIV, No. 5, May, 1952.

ACHIEVING SUCCESS

ly translated to the chemist or the engineer, this advice might mean the ability to write a technical report that management can understand.

When a group of executives were polled recently on qualities that make a successful executive,³ one who agreed with Drucker's thoughts on self-expression added that a good executive not only expresses himself well but he uses the proper timing in his communications. This means that as a project progresses, the successful man keeps other men in the company, who are involved, informed in advance of his decisions wherever possible.

Another executive in the same poll felt that a man who is going to be successful creates a feeling of stability about himself. His superiors know they can count on him to be there. The executive said this quality of confidence is called "being there-ness," which is positive assurance that the job is being filled no matter where you are. Our Bill Jones instilled this kind of assurance by the very nature of his acute interest in what was going on behind the scenes. I am reminded of a young man who knew his job thoroughly and who had many skillful attributes but he never kept his channel of personal communication open. If he made appointments outside the office, you could not reach him until you saw him again. He neg-

lected to tell people where he was. He created the wrong impression because of his lack of contact with his own firm. The result of this ineptness was that he would be by-passed on many matters and so he continued to lose ground. In his attempt to succeed, he all but smothered himself by being too much of a one man show. His accomplishments failed to overshadow his careless attitude.

Talking about communications as being part of success is a subject near to my heart. For instance, if you as the boss or the supervisor conduct a meeting with one of your associates on a strictly militant no-fooling-around basis, you are apt to come up with some terse replies that only give you part of the answer. You can make your fellow employee so uncomfortable that all he thinks about is how fast he can get out of your office—which is not always desirable.

On the other hand, if you can keep the man relaxed and unafraid, he will generally go out of his way to be informative and helpful. Whatever success I achieved came from having a good workable knowledge of fundamental chemistry. In addition I have tried to understand people. So today, while the chemistry I learned 25 years ago may be out of date, I think that my understanding of people has increased—and they are the ones who help keep me informed.

What about the man who has been called up to answer some questions

(3) What Makes an "Emotionally Stable" Executive. *Fortune*, Vol. LVIII, No. 1, July, 1958.

and is in front of his boss, either relaxed or under stress? My advice to him is that he should be prepared to know his fundamentals and his facts and be honest enough to say when he does not know. The fellow who hedges is communicating badly and will only create the wrong impression and get himself, or his boss, in trouble.

If you will take any list of qualities leading to success, such as initiative, job knowledge, leadership, dependability, getting along with people, good personal qualities and work habits, and stability in a crisis, you will find that no matter who prepares the list, these qualities are fairly standard. Most of you will agree that such a combination leads to an ideal employee. The interesting point about such lists of qualities is that knowledge of the job itself is the only technical skill required. Every other factor has to do with the personality of the individual. The old maxim, "It isn't what you know, it's who you know," could be brought up to date by saying that while your skill and chemical knowledge are important, it is your skill and deftness in human relations that really makes the difference in how much success you can achieve.

It would be imprudent for me to try to say whether a man trained as a chemist can achieve the most success from continuing as a research chemist producing results alone or as part of a team; or can achieve success

through research administration; or by the third route of climbing the executive ladder. But I do believe that fortune will favor the mind that is prepared.

Here is an inspirational paragraph from a speech⁴ made by the late John M. Hancock, a partner of Lehman Brothers and a director of over fifteen nationally known firms:

If you do poor work, you can go down, and the world will scarcely miss you. If you get a good reputation, you are forbidden to go back. You must go up. You have formed the habit of high aspiration. You cannot disown your reputation and slide downhill. There is an iron tyranny that compels men who do good work to keep on doing it. Your greatest insurance for the future is having the reputation now as a hustler. Talents without driving energy will get you nowhere.

When you are accorded such a reputation, keep faith with those who have built it for you and continue to deserve it. Out of the responsibility of maintaining your reputation will come the finest things you are capable of.

One secret of success is to be able to put your best foot forward without stepping on anybody's toes. Have you in your work:

1. Listened attentively.
2. Said "Thank You"
3. Smiled and meant it
4. Welcomed suggestions
5. Been tactful
6. Followed through on the job
7. Looked happy—been happy?

Achieving success is largely up to you.

(4) *How to Get Ahead in Modern Business*. By Harry Simmons, Prentice-Hall, Inc., 1953.

Communications

Action Implements Professionalism

To the Editor:

The good editorial in the April issue of *THE CHEMIST* was timely and welcome. I believe we must initiate an active program to counteract unionization; this we must do by deeds. We are either professionals or not. If we are professionals, then we should be sure that our professional rights are upheld and not suppressed. I feel that an employment agreement (professional) for chemists should be a very important good for the AIC. A model for such an agreement has already been drawn up; we should now adopt it.

—Dr. Stephen D. Bruck, F.A.I.C.
Wilmington, Delaware

The Athenian Oath

To the Editor:

On page 103, March issue of *THE CHEMIST*, under the title, "A Possession Forever," you quoted from the speech of Admiral H. G. Rickover given at Stevens Institute of Technology. This is a wonderful tribute to Greek civilization. I am very happy to find that Admiral Rickover has expressed himself on Greek culture. His remarks will help the younger generation to a better appreciation of the great contributions the Greeks made to our way of life.

The qualities in the Greeks which Admiral Rickover praised have, in-

deed, been largely overlooked. Their contributions and concepts are a continuing source of inspiration to those who have studied Greek life and thought. The values they have given us are indispensable, a possession forever, as Admiral Rickover pointed out.

Not only did the Greeks have ethical standards in medicine, but the Athenian Greeks had a fine sense of political responsibility which was embodied in the Athenian Oath. . . .

I am submitting it:

Never will I bring disgrace upon our fair city by dishonesty or cowardice. In company with our commander, or all alone, we will fight for its sacred things and its ideals. We will revere and obey its laws. In all ways we will strive to pass the city on to our sons more glorious and more beautiful than when our fathers passed it on to us.

—Dr. Charles N. Frey, F.A.I.C.
Scarsdale, N. Y.

The Record Set Straight

To the Editor:

The March issue of *THE CHEMIST* has a very interesting article by Dr. Joseph W. E. Harrison, called "The Consultant—His Contribution to the Community." This I have read and was interested and pleased to see the reference that he made (page 91) to Samuel P. Sadtler who founded our laboratory.

However, I should like to put the record straight. In the preceding paragraph where Edgar Fahs Smith is

mentioned, until Dr. Smith's death, he let the record be incorrect, and therefore, most references today are incorrect in this respect. Edgar Fahs Smith was the most promising student at Pennsylvania College, which is now called Gettysburg College, in Gettysburg. He was such a promising chemistry student that Samuel P. Sadtler made a personal trip to his home which I believe was in Columbia, in order to have his father send him to Germany to study. He went to Germany as a result of this interview and graduated with a doctor's degree, then returned to the University of Pennsylvania as an assistant to Samuel P. Sadtler, his former professor, who at this time had transferred from Gettysburg to Philadelphia. By 1891, Smith had temporarily forgotten his original connection with his former professor. Politics interfered, the two separated at this time, and no further mention of the connection was ever made by Smith until his obituary.

At the time Genth retired, the University of Pennsylvania's department of chemistry was considerably run down and Dr. Sadtler was brought to Pennsylvania to modernize it, and part of his modernization program was the employment of Smith. Until 1891, these two men were the only professors in the Department of Chemistry who had standing. In 1891 Samuel P. Sadtler left the Department of Chemistry, and Smith carried on alone. The College of Pharmacy

in 1879 also benefited by a modernization program installed by Samuel P. Sadtler.

—Philip Sadtler

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Highlights of the Council Meeting

The 325th meeting of the AIC National Council was held February 10, 1959, at The Chemist's Club, New York 17, N. Y., with President Emil Ott presiding.

The following officers, councilors, or alternates were present: Dr. M. Berdick, Dr. J. H. Faull, Jr., Dr. M. H. Fleysher, Dr. L. A. Hall, Dr. H. B. Hass, K. M. Herstein, Dr. F. A. Hessel, Dr. D. B. Keyes, Dr. S. D. Kirkpatrick, Dr. W. E. Kuhn, Dr. J. H. Nair, Dr. E. Ott, M. Sittenfield, and M. B. Williams. John Kotrady, chairman, 1959 Annual Meeting; Richard L. Moore, chairman, Committee on Public Relations, and Vera Kimball were present.

Dr. Ott reported that he had attended the Chicago Chapter meeting, when Honorary Membership was conferred on Dr. Lloyd Hall, and the New York Chapter meeting when Honorary Membership was given to Dr. Foster D. Snell. He had presented the Charter to the new Delaware Chapter; had spoken before the Twin City Chapter, and had attended the meeting of the Pennsylvania Chapter when Dr. J. W. E. Harrison received that Chapter's Honor Scroll.

Professionalism Emphasized

Upon motion, a resolution was requested for presentation at the 36th Annual Meeting, emphasizing the fact that chemists are professional persons. An editorial on this subject

in *THE CHEMIST* was also requested. (See page 117, April 1959 issue.) It was the consensus that the AIC should move as quickly as possible to implement the objective of more emphasis on the professional status of the chemist and the chemical engineer.

New Classes of Membership Suggested

Dr. Hass presented a suggestion from the Committee on Chapter Activities that two new classes of membership be considered: (1) Students of chemistry or chemical engineering. (2) Non-technical individuals who are actively associated with the chemical industry in some capacity. These suggestions were referred to the Committee on Membership. (AIC members were invited on page 119 of the April *CHEMIST*, to submit their comments.)

Friends Departed

Dr. Ott announced with deep regret the deaths of the following members:

Jerome Alexander,

Hon. AIC, on January 18, 1959.

James F. Maguire,

F.A.I.C., on October 23, 1958.

Dr. Ira E. Neifert,

F.A.I.C., on May 26, 1957.

James G. Park,

F.A.I.C., on January 29, 1959.

A moment of silence was observed in their memory.

Active Members

The Secretary's report indicated that the active membership totals 2791.

Appointment of Alternate Representatives

An inquiry from Dr. Rudolph Seiden was presented, asking whether Chapters may, in appointing alternates to Chapter representatives, appoint an alternate representative from a Chapter other than the Chapter to which the representative belongs. The Committee on Constitution and By-laws was requested to clarify the By-law permitting the appointment of alternates.

Report of Committee On Legislation

The report of the Committee on Legislation, sent in by Maynard J. Pro, chairman, concerning the matter of the clinical laboratory which found itself in operating difficulties under a State law, was presented, and referred to the Chapter alternate-representative for that area.

Liaison Representative to ACS

President Ott was requested to appoint a representative from the Council to the Committee on Professional Status of the American Chemical Society. (Dr. Johan A. Bjorksten was later appointed.)

Gold Medal Award

The Committee on the Gold Medal reported that Crawford H. Greenewalt, president of E. I. duPont de

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Nemours & Company, had been chosen to receive the 1959 Gold Medal, at the 36th Annual Meeting.

Public Relations Committee

Mr. Moore presented a written report covering plans for public relations for the Annual Meeting, and for a column on public relations in THE CHEMIST.

Emeritus Members

The following Fellows were given Emeritus status:

**Dr. Clyde C. DeWitt
Dr. Ronald M. Ferry
Dr. Paul L. Lotz
F. Grant Von Schleicher**

Committee on Chapter Activities

Mr. Williams recommended, for the Committee on Chapter Activities, that the State of Oklahoma be included in the Southwest Chapter. The Council approved the inclusion of Oklahoma in the territory of the Southwest Chapter. He stated that several new Chapters are being formed, and may be organized in time to be announced at the 36th Annual Meeting.

COUNCIL

Committee to Implement AIC Objectives

Dr. Hall reported that several matters have been suggested for consideration by the AIC: (1) That the expenses and time of the inventor be taken into consideration in connection with patents assigned to a company. (2) That a Grievance Committee should be established, or the fact that the Committee on Employer-Employee Relations and the Committee on Ethics are prepared to handle most grievances should be publicized, so that members will notify these Committees of their problems. (3) Individual chemists should be able to receive assistance whenever they need it to secure fair treatment.

The Secretary was asked to explain the functions of these Committees and announce their willingness to aid individuals when the new Committee appointments are announced.

Dr. Hall reported that the Proposed Contract had been adopted by several new companies.

Other Reports

Mr. Sittenfield reported for the activities of the Pennsylvania Chapter.

Dr. Berdick announced that the Honor Scroll of the New York Chapter will be presented in May to Dr. Maurice J. Kelley.

Dr. Fleyscher discussed the problem of interesting the younger scientific people in professional matters in the Niagara area.

Dr. Faull reminded those present of the AIC Social Hour at the ACS meeting in Boston.

New Members

The following new members were elected:

FELLOWS

Anderson, Howard J.

*Director, Pharmaceutical Research,
The Cudahy Labs., Omaha 7, Neb.*

Belden, Dr. Burton C.

*Assistant Manager, Office of Scientific
Liaison, Esso Research & Engineering
Co., Linden, N. J.*

Clark, Charles A.

*Group Leader & Supervisor, Chemical
Preparations Lab., Research Dept.,
Anso Div. of General Aniline & Film
Corp., Binghamton, N. Y.*

Fellows, George R.

*Manager of Atlanta Office, Fritzsche
Brothers, Inc., 403 W. Ponce De Leon
Avenue, Decatur, Georgia.*

Freeman, Eli S.

*Research Chemist-Group Leader,
Picatinny Arsenal, Basic Chemical
Research Unit, Pyrotechnics Laboratory,
Dover, New Jersey.*

Geller, Jerry H.

*GS-11 Research Biochemist, U.S. Dept.
of Agriculture, 600 E. Mermaid Lane,
Philadelphia, Pa.*

Hall, Hugh P.

*Quality Control Chemist, The Coca-Cola
Export Corp., P.O. Drawer 1734,
Atlanta 1, Georgia.*

Hull, William Q.

*Associate Editor, American Chemical
Society, Applied Journals, 2 Park
Avenue, New York 16, N. Y.*

Huppke, Glen P.

*Manager of Process Research, Fiber
Products Research Center, Inc.,
Beaver Falls, N. Y.*

McNulty, Herbert W., Jr.

*Assistant Manager, Market Research
Dept., National Aniline Div., Allied
Chemical Corp., 40 Rector Street,
New York 6, N. Y.*

O'Keeffe, Andrew E.

Manager of Research, Philip Morris, Inc., P.O. Box 3D, Richmond 6, Va.

Pailthorp, John R.

Head, Research Division, Elastomer Chemicals Dept., E. I. duPont de Nemours & Company, Jackson Laboratory, Wilmington 99, Del.

Pamplin, Claude A.

Assistant Vice President, General Sales Manager, Fisher Scientific Company, New York 14, N. Y.

Reynolds, Dr. Howard H.

Manager, Technical Dept., The Cryovac Company, Div. of W. R. Grace & Co., Cambridge, Mass.

Rhinesmith, Dr. Herbert S.

Professor of Chemistry, Allegheny College, Meadville, Penna.

Riggs, W. Robert

Manager-Administrative, Sinclair Research Laboratories, Inc., 400 East Sibley Blvd., Harvey, Illinois.

Rowe, Richard G.

Consulting Chemical Engineer, Private Practice, Black Rock Turnpike, Redding Ridge, Conn.

Rummelsburg, Alfred L.

Research Chemist, Hercules Powder Company, Research Center, Wilmington, Del.

Schwartz, Dr. Robert D.

Exploration & Product Research Lab., Shell Development Company, P.O. Box 481, Houston, Texas.

Wagner, Dr. William S.

Manager of Organic Research, Fiber Products Research Center, Inc., Beaver Falls, N. Y.

Wener, Leon E.

Chemist, Alcohol & Tobacco Tax Laboratory, Internal Revenue Service, Chicago, Illinois.

MEMBERS**Billingsley, Mrs. Alice M.**

Research Analyst, Office of Scientific Information, National Science Foundation, Washington 25, D. C.

Howe, Charles L.

Salesman, Laboratory equipment, George T. Walker & Co., Inc., 2218 University Avenue, S.E., Minneapolis 14, Minn.

Kahlenberg, Dr. Eilhard N.

Director of Research, Kahlenberg Laboratories, P.O. Box 1660, Sarasota, Florida.

Thompson, Woodford R., Jr.

Patent Attorney, Jennings, Carter & Thompson, Birmingham, Alabama.

Waits, Charles E.

Manager, Will Corp. of Georgia, P.O. Box 966, 890 New Chattahoochee Ave., N.W., Atlanta 1, Georgia.

RAISED FROM MEMBER TO FELLOW**Bruck, Dr. Stephen D.**

Research Chemist, E. I. duPont de Nemours & Co., Inc., Carothers Research Lab., Experimental Station, Wilmington, Del.

Henning, James E.

Vice President, Bjorksten Research Laboratories, 323 W. Gorham St., Madison, Wisconsin.

Kaasen, John A.

Sr. Engineering Inspector, Air Pollution Control District, 434 S. San Pedro St., Los Angeles 13, California.

Tokoli, Emery G.

Associate Director of Research, Fine Organics Inc., 205 Main Street, Lodi, New Jersey.

REINSTATED AS FELLOW**Clark, Frank M.**

Consulting Engineer, chem. & dielectrics, General Electric Company, 1 River Road, Schenectady, N. Y.

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Program of Objectives of the Delaware AIC Chapter

THE new Delaware AIC Chapter has prepared the following program of objectives, which were approved by its Chapter Council, April 14, 1959:

1. Draw up an employment agreement for chemists and chemical engineers.
2. Combat the suppression of the use of earned advanced academic degrees and professional titles of chemists and chemical engineers.
3. Counteract (as a group and individually) misleading and biased statistical findings in the chemical profession (resulting in unwarranted recruiting propaganda) and encourage objective surveys, including relative earning power.
4. Enlarge AIC membership among qualified persons actively engaged in the profession of chemistry and chemical engineering.
5. Oppose any attempts to enlarge membership in the AIC by lowering standards of membership.
6. Foster liaison with professional organizations having objectives similar to those of the AIC, such as the National Society of Professional Engineers, and the American Institute of Chemical Engineers.
7. Support federal legislation establishing a National Department of Science.
8. Promote uniformly high standards in chemical education in secondary schools, colleges, and universities, including the accreditation of undergraduate and graduate schools by the AIC.
9. Work for direct commissioned officer status (as already enjoyed by some other professions) for all members of the chemical profession with advanced degrees who are inducted in the Armed Forces.
10. Establish a "watch-dog" committee for combatting anti-scientific and anti-intellectual propaganda in publications, on television, and radio.
11. Present seminars for university students in chemistry and chemical engineering on professional rights and obligations.
12. Announce to the public the achievements of chemists and chemical engineers, and the importance of chemical research in everyday life, particularly in the fields of health and national security.
13. Cooperate with and encourage governmental agencies for the elimination of air and water pollution, since this is a source of damaging publicity to the chemical profession, and to the chemical industry.
14. Oppose legislative encroachments on the rights and privileges of qualified chemists and chemical engineers. (Legislation requiring the supervision of clinical laboratories only by M.D.'s is an example of such encroachment.)

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Dr. Herman F. Mark, F.A.I.C., director, Polymer Research Institute, Polytechnic Institute of Brooklyn, N. Y. will present the Edgar Marburg Lecture at the Annual Meeting of the American Society for Testing Materials, at Chalfonte-Haddon Hall, Atlantic City, N. J., on June 23.

Dr. Maurice L. Moore, F.A.I.C., has been appointed director of new product development of Sterling Drug Inc., and vice president of the company's Glenbrook Laboratories and Winthrop Laboratories Divisions. The research center is the Sterling-Winthrop Research Institute, Rensselaer, N. Y.

Dr. Albert Salathe, Emeritus F.A.I.C., of Long Beach, California, was married to Miss Zettie W. Cole, in March. Their wedding trip was to the Hawaiian Islands where they were guests of the president of the University of Maui. Dr. Salathe was formerly chairman of the Los Angeles AIC Chapter.

Edward J. Goett, F.A.I.C., executive vice president, Atlas Powder Co., Wilmington, Del., announces that Dr. G. H. Scheffler, manager of the company's Darco Experimental Laboratory, Marshall, Texas, has been appointed research associate in the chemical research department at Wilmington.

Dr. Harvey A. Neville, F.A.I.C., provost and vice president, Lehigh University, Bethlehem, Pa., announces a new course in physics for secondary school teachers in the master teacher program.

Dr. Milton Harris, F.A.I.C., vice president and director of The Gillette Co., and president of Harris Research Labs., Inc., recently spent a month in Reading, England, setting up a new Research Laboratory for The Gillette Company.

Bernard R. Krashin, M.A.I.C., president, Colton Chemical Company (division of Air Reduction Co., Inc.), announces that S. E. Werner will head the new sales office and warehouse at 209-15 So. Franklin St., Tampa, Florida.

Dr. George F. Rugar, F.A.I.C., manager of product development, Diamond Alkali Company, Cleveland 14, Ohio, announces that Dr. L. G. Utter becomes assistant manager, Agricultural Chemicals, and F. L. Dailey is promoted to assistant manager, Industrial Chemicals.

ABOUT AIC MEMBERS

Dr. William S. Wilson, F.A.I.C., head, Department of Chemical Engineering, University of Alaska, will spend the summer as director of the National Science Foundation Sponsored Summer Science Training Program for Secondary School Students, in Anchorage, Alaska. He is a member of the State Curriculum Committee to study the curriculum in science for the Public Schools of Alaska.

Dr. Howard S. Turner, F.A.I.C., vice president for research, Jones & Laughlin Steel, and **Fredrick W. Stavely**, F.A.I.C., director of research, Firestone Tire & Rubber Co., and president of Industrial Research Institute, participated in the March 3-4 symposium on "Research and its Proper Place in the Moderate Sized Company," held by IRI and the Young Presidents' Organization in New York, N. Y. **Crawford H. Greenewalt**, F.A.I.C., president, E. I. du Pont de Nemours & Co., discussed the research philosophy of his company.

Dr. Stephen Laufer, F.A.I.C., vice president and director of brewing technology, Schwarz Laboratories, Inc., Mt. Vernon, N. Y., and Mrs. Laufer left on April 11 for a three month trip to Europe. He will present a paper on "Reducible Disulfides in Beer" at the Congress of the European Brewery Convention to be held May 8-15 in Rome.

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J. Robert Bonnar, F.A.I.C., director of marketing, Dyestuff & Chemical Division, General Aniline & Film Corp., announces that Charles C. Cayce has been made Southern Regional Manager of General Dyestuff Co., a division at Charlotte, N.C.

Dr. Marion B. Geiger, F.A.I.C., director, general development, Hooker Chemical Corporation, Niagara Falls, N. Y., announces that Dr. Thonet C. Dauphine will specialize in economic development, in the general development department.

Earl Ubell, science editor of the *New York Herald Tribune*, addressed the New York AIC Chapter, April 16, at The Chemists' Club, New York, N. Y. His subject was "Community Recognition: How the Chemist Can Achieve It."

Louis Lang, F.A.I.C., chief research chemist of the National Sugar Refining Company, Philadelphia, retires and will offer his services as consultant to industry. He is located at 900 Asbury Terrace, Philadelphia 26, Pa.

Bernard E. Schaar, Hon. AIC, founder of Schaar & Company, was the honor guest at the 50th anniversary of the company, celebrated at the International Club of the Drake Hotel, Chicago, Ill. on March 18.

L. A. Rauch, F.A.I.C., president of Schaar & Company, Chicago 34, Illinois, was presented with the Corning Glass Works 1958 Achievement Award, March 18, at the 50th Anniversary celebration of the company.

Dr. H. E. Robinson, F.A.I.C., director of laboratories, Swift and Company, Chicago, Ill., was elected vice president in charge of scientific research activities. He succeeds **Dr. R. C. Newton**, Hon. AIC, who retired April 1.

Nicholas Molnar, F.A.I.C., president of Fine Organics, Inc., Lodi, N. J., outlined a plan to unite industry in support of the science teaching programs in the high schools of Bergen and eastern Passaic counties, N. J., on Feb. 21. He spoke at the annual dinner of the Cooper Union Alumni Association in New York, when he was named the Association's "Alumnus of the Year."

Dr. John E. McKeen, Hon. AIC, of Chas. Pfizer & Co., Inc., New York, N. Y., speaking before the Midwest Forum of the Investment Analysts Society of Chicago, recently pointed out that the death rate for tuberculosis dropped 80 per cent from 1945 to 1956, and that equally significant decreases have occurred in deaths from other diseases against which antibiotics are effective.

Dr. Roger Adams, Hon. AIC, professor emeritus, University of Illinois, attended the conference on cottonseed pigments at the U.S.D.A., Southern Utilization Research & Development Division, in New Orleans, La., in April. He pioneered research on gossypol and proposed its chemical structure, more than 25 years ago.



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ABOUT AIC MEMBERS

Dr. Chris A. Stiegman, F.A.I.C., director of research, Hooker Chemical Corporation, Niagara Falls, N.Y., announces that Carl I. Gochenour has been appointed general manager—product development.

Henry J. Weiland, F.A.I.C., has been appointed plant manager of Ketona Chemical Corporation, a jointly-owned firm of Hercules and Alabama By-Products Corp., near Tarrant, Alabama.

H. Bennett, F.A.I.C., director of Cheminform Institute, 10 Columbus Circle, New York 19, N. Y., announces that a chemical intelligence service is now available to supply chemical word definitions and trademarks identities.

Dr. Paul Jewel, F.A.I.C., chief chemist for Max Factor & Co., Hollywood 28, Calif., was honored by the California Section of The Society of Cosmetic Chemists, in April, as the founder and first chairman of the local section.

Dr. Foster D. Snell, Hon. A.I.C., president, Foster D. Snell, Inc., New York 11, N. Y., announces the purchase of a building at 1500 Guilford Ave., Baltimore 2, Md., for the occupancy of Crippen Laboratories, Inc., a subsidiary.

Dr. Emery D. Robert, F.A.I.C., is now president of LORA, Inc., 2666 N. Clark St., Chicago 14, Ill., a new chemical specialties firm.

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Merritt L. Kastens, F.A.I.C., formerly with Stanford Research Institute, Menlo Park, Calif., has joined Union Carbide International, 30 E. 42nd St., New York 17, N. Y.

J. Robert Bonnar, F.A.I.C., has been appointed director of Marketing, Dyestuffs & Chemical Division of General Aniline & Film Corporation, New York, N. Y. He was formerly sales manager—Dyestuffs.

A survey at Lehigh University, Bethlehem, Pa., shows that the average graduate of 1948 is earning about \$10,000 a year; works for a company with over 500 employees; is working in the field in which he majored at Lehigh, and would select Lehigh and the same course, if he were a freshman applicant. He has gained seven pounds since graduation; is married and the father of two children; drives a 1955 model car, and is paying off a mortgage on a \$19,000 house.

National Starch Products, Inc., New York, N. Y., is changing its name to National Starch and Chemical Corporation.

Professional Appointments

- May, 1959. Wilmington, Delaware.** Delaware AIC Chapter meeting. Details to be announced.
- May 5, 1959. Kansas City, Missouri.** Massman Hall, Rockhurst College, 53rd and Troost. Midwest Chapter. Dinner 6:30 p.m. Meeting 7:30 p.m. Speaker, Dr. Vanston H. Ryan, Chairman, Department of Natural Sciences & Mathematics, Rockhurst College. Subject: "Science and Education." All AIC members, their families and friends are cordially invited to attend. Reservations: Daniel J. Sullivan, 1522 Holmes St., Kansas City 8, Mo.
- May 6, 1959. Atlantic City, N. J.** Traymore Hotel. The AIC President's Reception to the Officers, National Councilors, Members of the Annual Meeting Committee, and their wives. 5:30 p.m.
- May 6, 1959. Atlantic City, N. J.** Traymore Hotel. Belvedere Room, 11th Floor. Meeting of the AIC Board of Directors and Council. 6:30 p.m.
- May 7, 1959. Atlantic City, N. J.** Traymore Hotel. 10:00 a.m. Belvedere Room. 36th Annual AIC Business Meeting. (Announcement of elections. Annual Reports from Officers, Chapters, Committees. Other Business.) 12:15 p.m. Keynote Luncheon, American Room. 2:00 p.m. First Professional Session, "National Progress Through Chemistry," Rose Room. 7:00 p.m. Gold Medal Banquet, American Room. (For complete program, see April CHEMIST.)
- May 8, 1959. Atlantic City, N. J.** Traymore Hotel. 9:00 a.m. Rose Room. Second Professional Session, "The Importance of Industrial Research to the Economy." 12:30 p.m. Institute Luncheon, American Room. 2:15 p.m. Rose Room, Third Professional Session, "Scientific Training for the Economy." (For complete program, see April CHEMIST.)
- May 14, 1959. Philadelphia, Pa.** Engineers' Club, 1317 Spruce St., Philadelphia, Pa. Pennsylvania Chapter. Student Award Night. Dinner 6:30. Student Awards, 8:00 p.m. Lecture, 8:30 p.m. Speaker: Dr. Egbert Mason Kipp, Director, Research & Development, Foote Mineral Co., Berwyn, Pa. Subject, "The Professional Chemist in Industry." For reservations, Dr. W. E. Langeland, Wyeth Institute, Radnor, Pa. (MUrray 8-4400).
- May 19, 1959. Linden, N. J.** Esso Refinery. New Jersey Chapter Plant trip. Tour begins at 3:00 p.m. Advance reservations and registration required as number for tour is limited. Business meeting and dinner to follow tour. For details: Dr. Stephen E. Ulrich, Chairman, Program Committee, Rutgers University, New Brunswick, N. J. (CHarter 7-1666). For reservations: Dr. John F. Mahoney, Merck & Co., Inc., Rahway, N. J. (FULton 1-5000, Ext. 3254).
- May 26, 1959. Buffalo, N. Y.** University of Buffalo. Niagara Chapter meeting. Testimonial dinner to Dr. Joseph B. Muenzen, S.J., F.A.I.C., of Canisius College, for his many services to the Chapter. Presentation of Student Medals. For information: Ray F. Seifert, Titanium Alloy Mfg. Co., National Lead Co., Niagara Falls, N.Y.
- May 27, 1959. Washington, D. C.** Army-Navy Club. Washington Chapter dinner and award meeting. (See page 154.)
- May 28, 1959. New York, N. Y.** Hotel Shelburne, 37th St. & Lexington Ave., New York Chapter Meeting. Social Hour 5:30 p.m. Dinner 6:30 p.m. Program 7:30 p.m. Presentation of the Honor Scroll to Dr. Maurice J. Kelley, F.A.I.C., of Nopco Chemical Co., Harrison, N. J. Speaking for Dr. Kelley as a Person, Lawrence Flett, Hon. AIC. Speaking for Dr. Kelley as a Professional, Dr. Lincoln T. Work, F.A.I.C. Acceptance Address: "Perseverance—the Sinew of Life." For reservations, Robert R. Dean (MU 7-7400) or Dr. K. S. Konigsbacher, c/o Evans Research & Development Corp., 250 E. 43rd St., New York, N. Y.
- June, 1959. Niagara Falls, N. Y.** Niagara Chapter Meeting. Date and details to be announced.
- May 11-13, 1960. Minneapolis, Minn.** Radisson Hotel. 37th Annual AIC Meeting. The Twin City Chapter will be our host.
- May 11-12, 1961. Washington, D. C.** Statler Hotel. 38th Annual AIC Meeting. The Washington Chapter will be our host.

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